

# Hospital Financial Performance: Differences Within Maine

Prepared for Hospital Study  
Commission Meeting

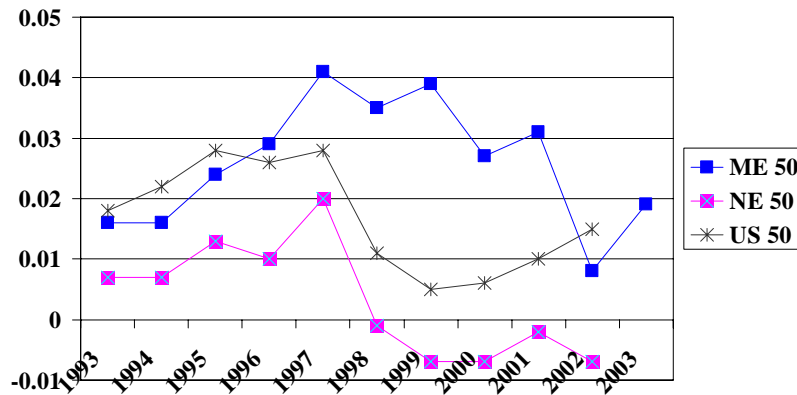
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Nov 22, 2003

## Overview of Presentation

- Review historical financial performance, Maine vs Northeast vs US
- Identify three financial performance groups, high, medium, and low, based on prior five years' profitability
- Using these three groups, discuss:
  - Issues related to reporting profit margins, for purposes of setting targets
  - Nonfinancial characteristics of hospitals associated with financial performance
  - Relationships between financial, quality, and cost performance
- Policy Recommendations for Hospital Study Commission

# Operating Margin Distribution 1993-2002

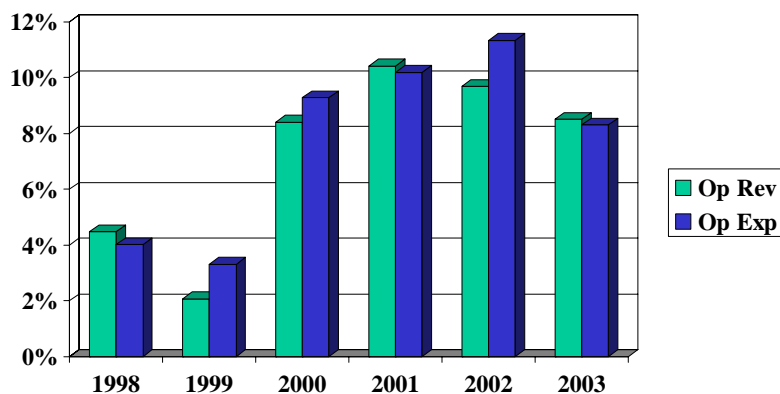


Source of comparison: Almanac 1998-99, 2004, MCR Indicators

The median for Maine hospitals is well above the Northeast Region in all years.

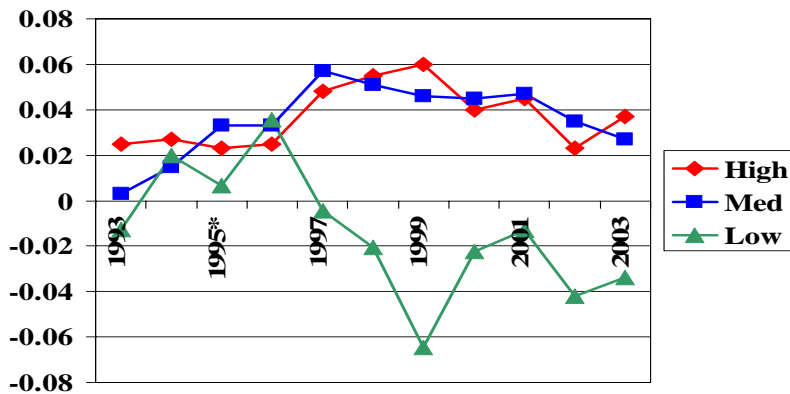
The median for Maine hospitals is above the US from 1996 – 2001.  
Comparable data not yet available for 2003.

### Aggregate Growth Rates Total Operating Revenue and Total Operating Expense



Margins decline when expenses grow faster than revenues. The 2002 drop in operating margins is due to a record 11% growth in operating expenses while revenues grew at slightly less than 10%. In 2003, the growth rate in operating expenses dropped to roughly 8%, and revenues grew slightly faster than expenses. Thus the 2003 operating margin improves due primarily to the drop in expense growth rates. The voluntary constraints on cost growth in the Dirigo legislation apply to the 2003 fiscal year; this slide suggests that the Dirigo voluntary limits on cost growth had a moderating influence in 2003.

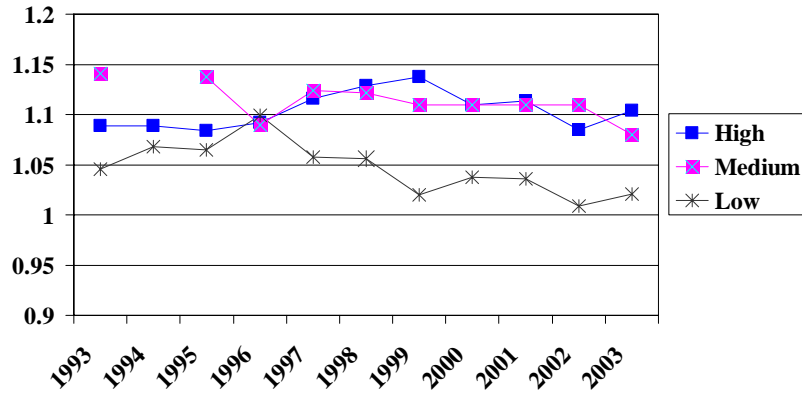
## Average Operating Margins by Financial Performance Group in Maine



This slide reflects the operating margins of hospitals in Maine, divided into three groups of 12 each. The three groups are “high” performance, “medium” performance, and “low” performance based on the previous five years of profitability. The hospital members in each group remain the same for the rest of this presentation; this gives a picture of hospital performance that links the various ratios to a specific group of hospitals over time, and gives greater insight into the financial condition and reasons for variation in profitability than simply showing quartile distributions of each ratio.

While the high and medium performance groups average operating profits are well above the national medians from 1997 through 2002, the low performance group averages below national medians in all years except 1996. The low performance group averages operating losses from 1997 through 2003.

## Markup Adjusted for Deductible 1993-2003



The markup adjusted for the deductible reflects the amount of net revenue hospitals were paid, in excess of their costs, before taking bad debt and free care into account. The high and medium performance hospitals were able to keep their markups of price over cost, after third party discounts, at a level at or above 110% of cost for most of the decade. In 2002, the high performance group had an adjusted markup just below 110% of cost, but they quickly recovered by 2003. The medium performance group stayed at or above 110% until 2003, when they experience a small dip below 110%. However the low performance group experiences a steadily declining adjusted markup from 1997 on; and it goes below 105% of cost from 1999 – 2003.

Adjusted markups are a function of gross prices relative to costs, and the deductions that third party payers take with their contractual adjustments. A declining adjusted markup can be for several reasons: one: hospital pricing decisions; two: negotiated discounts with privately insured payers; three: payer mix – proportion of public versus private payers, as public payers pay prospectively based on non-negotiated payments; and four: hospital volume of services. From evidence we will present later on, the low performers are different from the other two groups primarily in their difficulty maintaining inpatient volume of services.

## Nonfinancial Characteristics by Financial Performance Group

Financial Performance Group	High	Medium	Low
Region:			
North	3 (15%)	8 (42%)	8 (42%)
Central	5 (63%)	3 (37%)	0
South	4 (44%)	1 (12%)	4 (44%)
Critical Access	0	2 (25%)	6 (75%)
Average Staffed Acute Beds, 2001	<i>140</i>	<i>101</i>	<i>52</i>
Avg Acute Occupancy, 2001	<i>56%</i>	<i>50%</i>	<i>38%</i>

(differences in averages are statistically significant when italicized)

The high performance hospitals are predominant in the Central and South regions, and are larger and have higher occupancy than the other two groups. The low performance hospitals are in the North and South regions, and tend to have smaller bed size and lower occupancies. The Medium performance groups are largely in the North and Central regions, and have average bed size and occupancy between the high and low performance groups.

Three-quarters of the Critical Access Hospitals are in the Low Performance group; the remaining one-quarter are in the medium performance group.

### Appendix 1. State Health Plan Regions

Legend:

- Eastern Maine Medical Center
- Central Maine Medical Center
- Maine Medical Center

\*Does not include Veterans Administration (VA) Medical Center nor Mental Health Institutions

Updated November 21, 2003

## Average Payer Mix by Performance Group

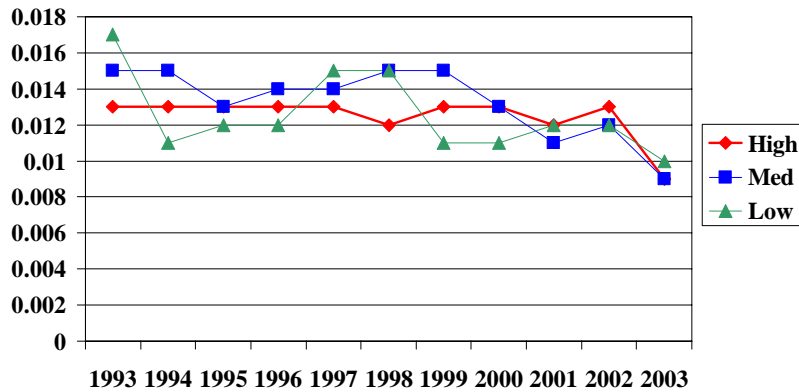
Financial Group	High	Medium	Low
Avg % Inpatient Gross Revenue, 1999-2003			
Medicare	57.8%	61.1%	64.5%
Medicaid	11.4%	12.6%	8.9%
Other	30.8%	26.3%	26.6%
Average % Outpt Gross Revenue, 1999 – 2000			
Medicare	30.4%	38.6%	33.5%
Medicaid	11.0%	12.5%	11.7%
Other	58.5%	50.7%	54.7%

The “Other” payer group is predominantly the privately insured; the uninsured /self-pay also fall into this category.

Medium and Low performance groups have very similar public-private payer mix, both on inpatient and outpatient side. The Low performance group had less inpatient Medicaid than the other two groups, and had more outpatient “other pay” than the medium group. This mix differential suggests that payer mix is not the main driver for the low profitability of this group.

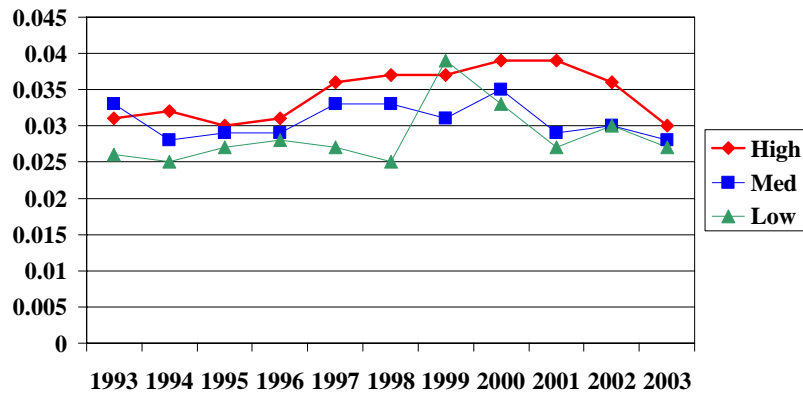
The High performance group had a significantly higher proportion of “Other” payers in both inpatient and outpatient services. The association of a high private-paying mix with relatively high operating profits is not surprising; however the medium performance group averages very similar operating profits with the same “Other” payer mix as the low performance group, so again, payer mix does not appear to be the primary driver of operating profitability in these hospitals.

### Free Care as Percentage of Gross Patient Service Revenue, By Financial Group



Free care (at charges) as a percentage of Gross Patient Service Revenues is dropping over time for all three groups. No one financial group appears to be absorbing a consistently heavier burden of free care than other. Thus free care does not appear to be a major driver in determining hospital profitability for these hospitals.

### Bad Debt as % Gross Patient Service Revenue, by Financial Group



Bad debt follows an inverted U-shaped curve, basically ending the decade at roughly the same proportion of Gross Patient Service Revenues as at the beginning. The high performance group generally absorbs the greatest burden of bad debt over the decade, so bad debt also does not explain why some hospitals experienced low profitability and others did not.

### Growth In Annual Discharges by Payer and Financial Group, 2003 over 1999

Financial Group:	High	Medium	Low
Trend in Discharges, 2003 over 1999			
Medicare	5.6%	2.5%	2.4%
Medicaid	56%	66%	25%
Other Pay	(8.2%)	(13%)	(15%)
Total Discharges	5.5%	5.3%	(0.9%)

The trend in inpatient discharges does appear to be a major factor in separating the low performance group from the other two profitability groups. All three groups experienced a slowly growing Medicare inpatient population, and a rapidly growing Medicaid population (fast growth on a relatively smaller number of people, eg around 10-12% of all discharges were Medicaid). The “Other” payer group is shrinking in inpatient discharges across the three groups, but both the high and medium performing hospitals were able to offset that loss with public patient growth. The low performance hospitals lost more “Other” and gained fewer public patients than the other two groups. The lack of growth in inpatient volume appears to be a distinguishing factor driving low hospital profitability in Maine.

## Technical Concerns Regarding Operating Margin Measurement

- Standardization of reporting
- System versus hospital entity margins
- Physician practice mergers into hospital entity
- Impact of third party reserves on operating margin

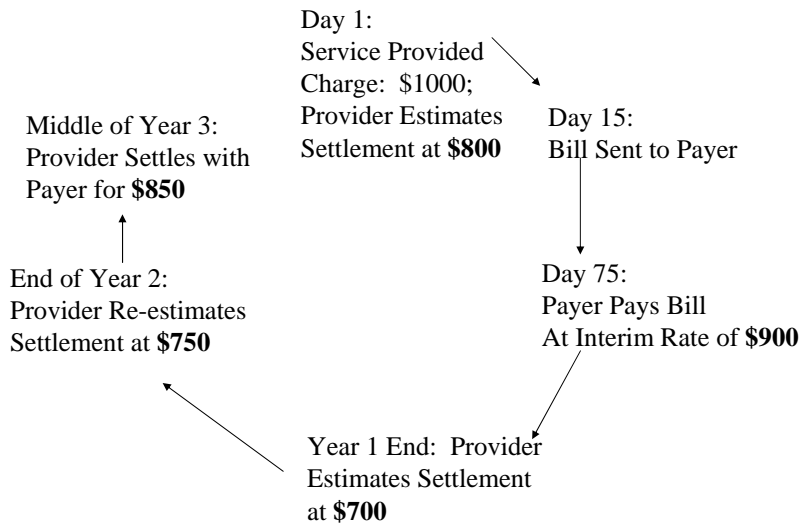
The Commission has already addressed the issue of standardizing reporting, which will facilitate the comparison of apples-to-apples when looking at hospital operating margins.

We have also discussed the fact that system consolidated operating margins, which reflect multiple entities both hospital and nonhospital, are nearly always lower than hospital operating margins. In 2003, at least eight of 13 hospitals with operating profit margins exceeding 3% were in systems whose consolidated operating margins were below 3%.

In 2003, several hospitals merged physician practices into hospital operations, where the results will affect operating margins. Others subsidize physician practices through nonoperating losses (which does not affect operating margins – just total margins) and others subsidize physician practices through transfers of equity (which does not affect any margins). If operating margin targets are to be continued, some adjustment for the impact of physician practice subsidies may be needed to insure that the targets are on comparable entities.

Variation in estimating third party reserves is a fourth source of concern in setting operating margins that are equitable across all hospitals. This topic requires some clarification of how hospitals record third party reserves (see next slide).

## Hospital Revenue Recognition:



### Explanation for the Non-Accountant:

**Day One:** Hospital increases Net Patient Service Revenue by \$800 (the amount they expect to earn for delivering the service).

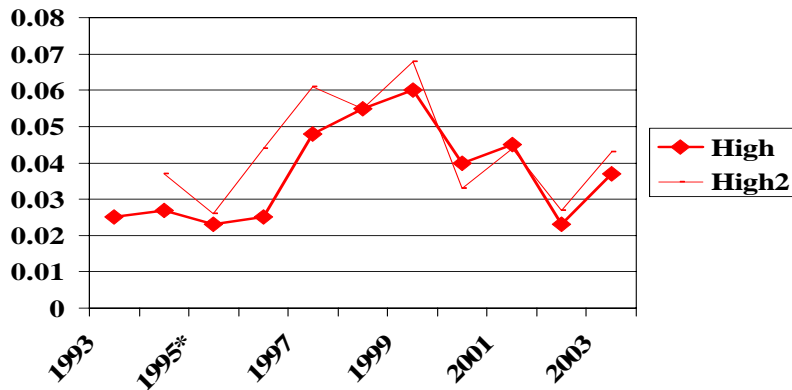
**Day 75:** Since the cash received exceeds the amount expected to have been earned, the hospital puts the extra \$100 into a *liability* account, “estimated third party settlements”. This is what I am calling “reserves”. The idea is that the hospital expects to have to pay the \$100 back to the third party.

**Year 1 End:** Hospital lowers the amount it expects to receive from the payer, based on concerns about allowable costs, appropriate coding, patient eligibility, etc. Net patient service revenue is lowered by \$100 to a final Year 1 figure of \$700; the reserve rises to \$200 – the amount the hospital thinks it might have to pay back to the third party.

**End of Year 2:** The hospital raises its expected revenue for that service to \$750, \$50 of which has not yet been recognized as revenue. Net patient service revenue for Year 2 rises by \$50 and reserve drops to \$150.

**End of Year 3:** The hospital finally settles with the third party payer for the service; they get to keep \$850 of the \$900 they were originally paid in cash. Thus Year 3 Net Patient Service Revenues go up by \$100 (the amount not recognized already in earlier years), the reserve is reduced to zero, and the hospital pays back \$50 in cash.

## Operating Margins and Reserves, High Group



The “High2” line represents the operating margin before the increase in third party reserves for the high performance group.

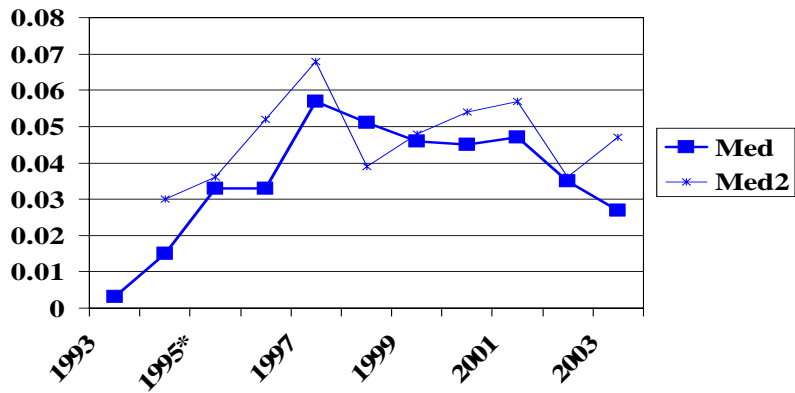
Note that reported operating margins are below the pre-reserve margins in 6 of the 10 years for which they were calculated; reported operating margins are above preserve margins (eg reserves were *reduced* that year, not increased) in only one year (2000).

For the accounting sophisticate: the operating margin pre-reserve is calculated as:

Numerator: Operating income plus (this year’s estimated third party liability minus (last year’s estimated third party liability – this year’s prior year settlements and changes in estimates))

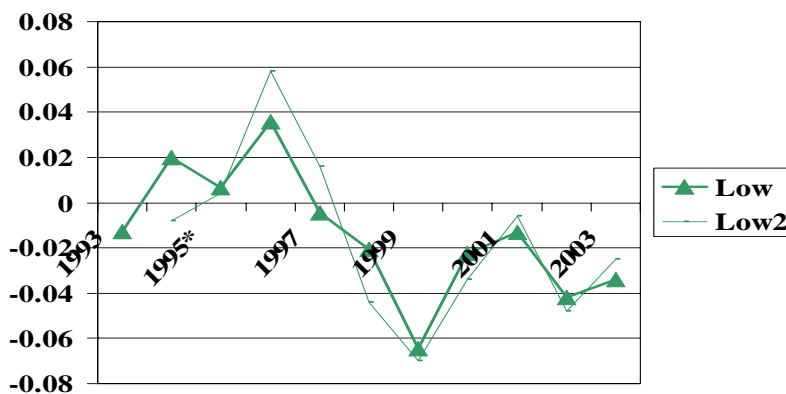
Denominator: Total Operating Revenue plus (this year’s estimated third party liability minus (last year’s estimated third party liability – this year’s prior settlements and changes in estimates))

### Operating Margins and Reserves, Medium Group



The medium group reported operating margins below pre-reserve margins in 8 out of 10 years. Only in 1998 were reported margins above prereseve margins.

## Operating Margins and Reserves, Low Group



The low performance group reported operating margins below prereserve margins in 4 of 10 years. However, in five of 10 years, reported operating margins were above prereserve margins.

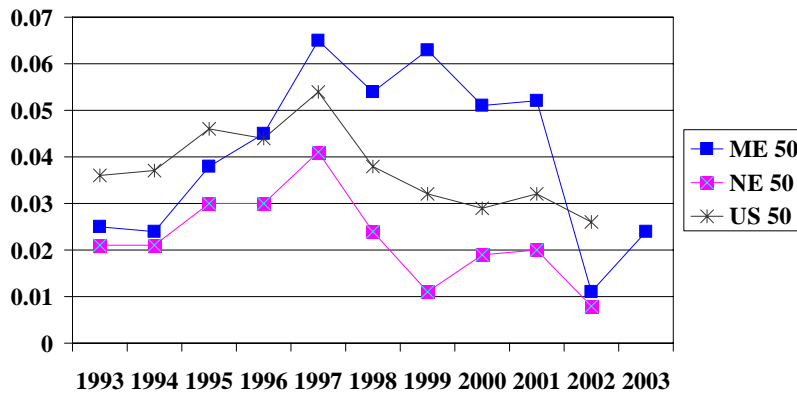
In other words, the low performing hospitals appear less likely to increase their estimated liability for third party settlements, and more likely to recognize all payments as revenues, than hospitals in the other two performance groups.

In previous research, hospitals with higher profit margins were found to report profits more conservatively (eg recognize larger reserves) than did hospitals with lower profit margins. See Kane NM. "Hospital Profits: A Misleading Measure of Financial Health", in the Journal of American Health Policy, July/August 1991. Vol. 1 (1).

## Technical Concern, Summarized

- If hospital operating margins are to be recommended as a target for limiting citizens' expenditures for hospital care, the Commission may want to consider specifying a limit based on the hospital entity only, based on hospital operating profits before physician practice net expenses, and before increases (decreases) in estimated third party liabilities. This would further enhance an "apples-to-apples" target across hospitals.

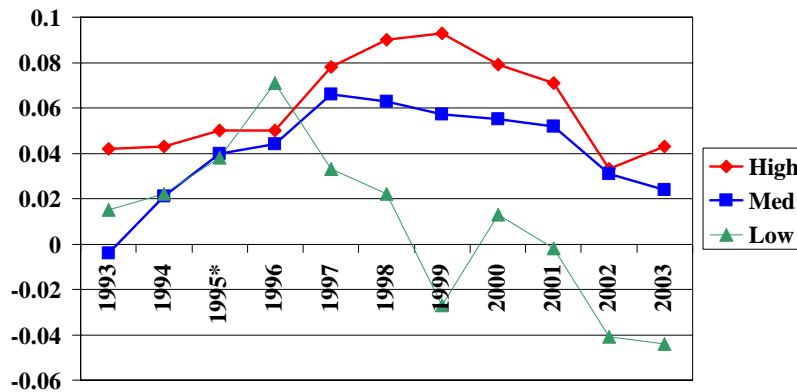
## Total Margin Distribution 1993-2003



Source of comparison: Almanac 1998-99, 2004, Financial Indicators

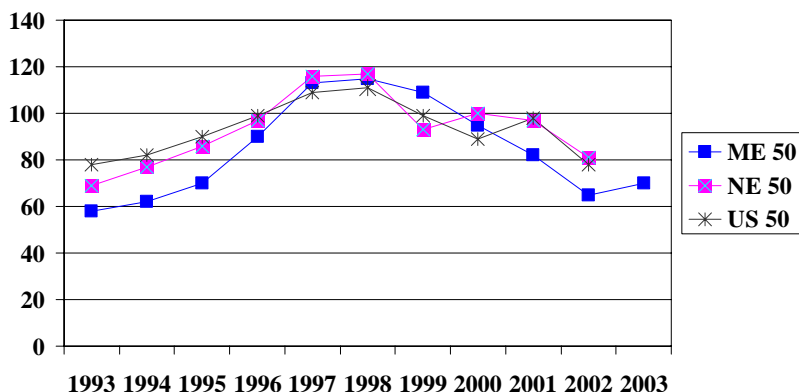
Moving on to other financial performance measures: the total margin includes investment income, gains and losses on investments in other entities (eg physician practice losses are sometimes recognized here) , and unrestricted contributions. The median value for Maine is higher than the US from 1997 – 2001, and higher than Northeast for the entire 10 year period. The trends are driven by both operating margins and by investment income returns (interest income, dividends, and realized gains and losses), which deteriorated along with the stock market in the period 2001 – 2003.

## Average Total Margins by Performance Group, Maine



The total margin more clearly separates the high performance group from the medium performance group; the high performance group had higher investment income (driven by higher balances of marketable securities and cash – see later slide). The low performance group's total margin peaks in 1996, the same year its operating margin peaks. The total margin for the low performance group is *lower* than the operating margin in 2003, indicating losses on investments and to some extent on physician practices.

## Days Cash on Hand, Incl BD 1993-2003

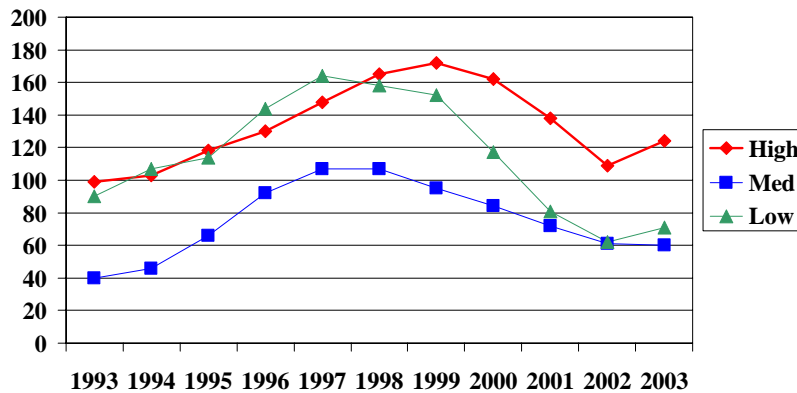


Source of comparison: Almanac 1998-99, 2004, Financial Indicators

The Maine median for days cash on hand, including board-designated investments, follows the trend of both national and northeast regions, and reflects to some extent the increase and subsequent decrease in the market value of investments over the decade. In both the early years (1993 – 1996) and the later years (2001-2002), the median for Maine has been below national and regional medians.

The reasons for Maine's relatively lower days cash ratio can be several, including a difference in rate of investment in property, plant and equipment, a difference in the amounts of cash transferred to affiliates, and a difference in the investment mix (stocks, bonds, money-market) of these assets. It is clearly NOT due to lower profitability of hospitals in Maine, as the earlier slides indicate.

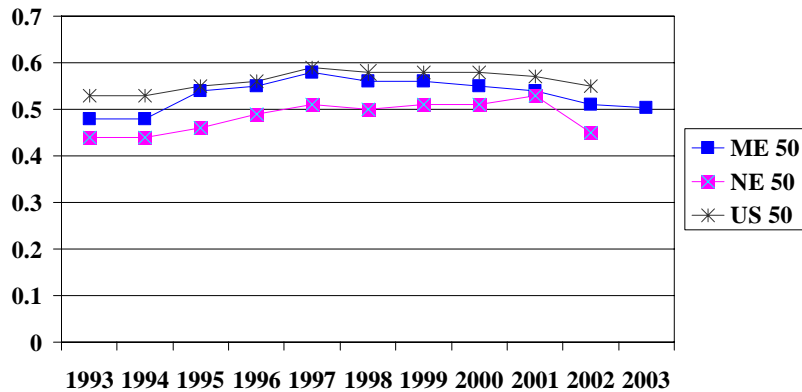
### Days Cash on Hand by Financial Group



When the days cash ratio is broken out by profitability group, it is apparent that the high performance group has the highest days cash on hand (which contributes higher investment income, hence higher total margins, as seen earlier). The medium performance group has the lowest days day ratio for the entire decade; while this group was profitable, it used more of its cash generated from operations for investments in PP&E and affiliate transfers (see “Uses of Cash by Financial Group, shown later).

The low performance group had similar days cash as the high performance group until they started losing money on operations; the losses gradually used up much of their cash over the later half of the decade. The low performance hospitals generally are not illiquid, but they have not been able to increase their cash assets over the decade.

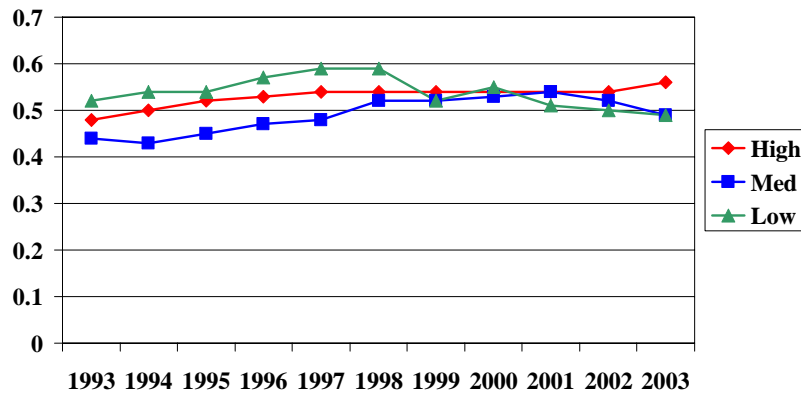
## Equity Financing Ratio 1993-2003



Source of comparison: Almanac 1998-99, 2004, Financial Indicators

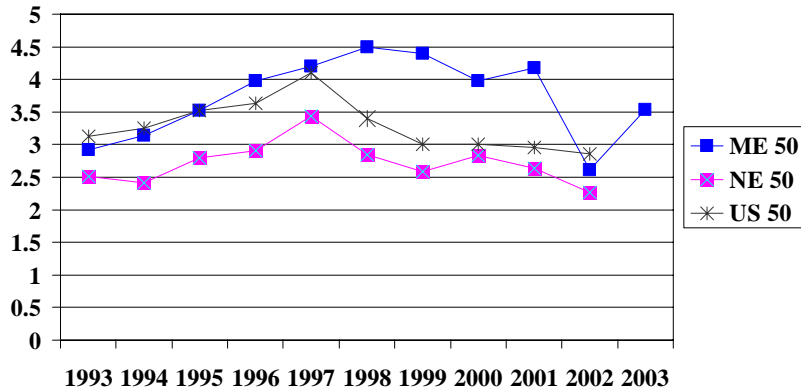
Maine has a healthier mix of equity versus debt than the Northeast hospitals over the decade, but a slightly less healthy mix than the US overall. The more important question is how well the hospitals are able to service their level of debt, which is addressed in the Debt Service Coverage slide, later.

### Equity Financing Ratio by Financial Group



The mix of equity and debt is most favorable in the low-performing group in the early half of the decade; however, operating losses eat into the low performing group's equity, bringing it down to the average for the medium group in by 2003. The high performance group gradually improves its equity mix (becoming less leveraged), while the medium performance group is the most highly-leveraged in most years.

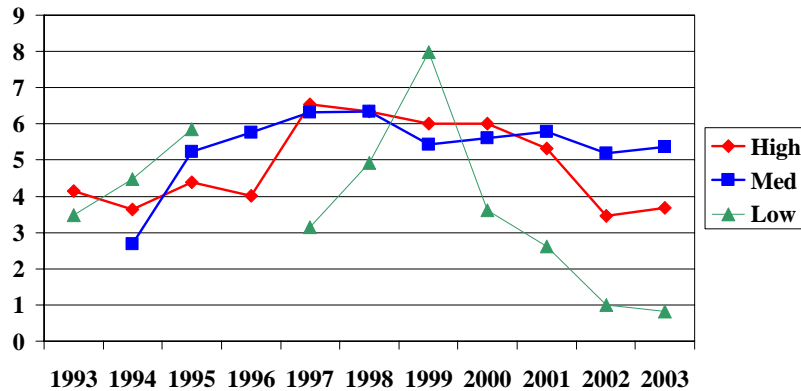
## Debt Service Coverage 1993-2003



Source of comparison: Almanac 1998-99, 2004, Financial Indicators

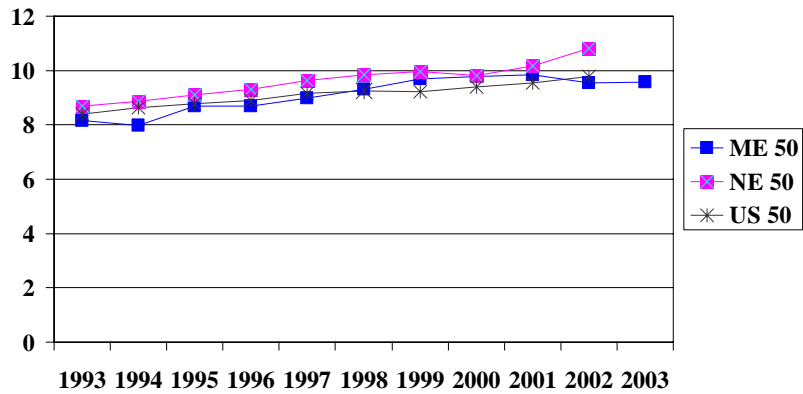
The debt service coverage ratio measures how many times over the hospital can pay its debt service (interest expense and principal payments) from cash generated from operations. Maine's superior operating profitability puts it well above the US and the Northeast region in most years.

## Debt Service Coverage by Financial Group



Not surprisingly, the low performance group has the most trouble covering its debt service, due to its declining profitability. The low group's average value goes below 1 in 2003, which indicates that they must use other resources (eg cash reserves, if they have any) to make debt service coverage payments in that year. While the low performers are carrying about the same level of debt as the medium performance group, they are less able to service it, which makes them more financially risky.

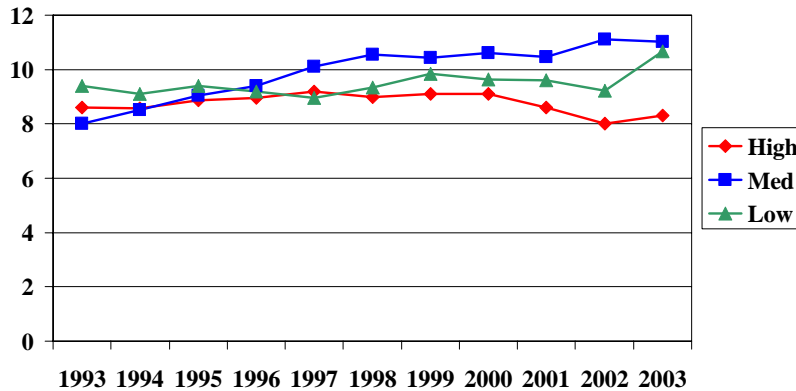
## Plant Age 1993-2003



Source of comparison: Almanac 1998-99, 2004, Financial Indicators

The median age of plant for Maine is generally younger than the Northeast and roughly similar to the US.

Average Plant Age by Financial Group



The high profitability group has actually decreased their plant age over the decade to approximately 8 years, well below national (10 years) and regional (11 years) medians. The medium group has gradually aged over the decade, going from the youngest to the oldest age over the 10 years. The low group maintained a plant age below 10 years for most years; their age becomes sharply older in 2003, suggesting that their deteriorating operating performance has taken a toll on their ability to maintain plant and equipment at historic levels.

## Sources of Cash by Financial Group, 1993-2003

	High	Medium	Low
Operating Income	26%	36%	3%
Noncash expenses	37%	43%	55%
Nonoperating Revenue	24%	8%	24%
Working Capital	2%		
Incr Net Longterm Debt	8%	11%	9%
Capital Donations	3%	3%	8%

The ten-year aggregate cash flow statement for the three groups summarizes the implications of the various ratios seen earlier. The high performance group has a diversified base of internal sources for generating cash: operating income, noncash expenses (largely depreciation), and nonoperating revenues; it actually generated cash from working capital. Thus it relied on outside sources of capital (longterm debt and capital donations) for only 11 % of its total cash over the decade, a sign of strong financial performance.

The medium performance group is more reliant on operating income and noncash expenses, as there is less nonoperating revenue generated. They are still in good shape, however, relying on outside sources for only 14% of total cash over the decade .

The low performance group is clearly handicapped by the lack of operating income as a source of cash. It relies heavily on noncash expenses, and on its shrinking nonprofit revenue, as primary sources of cash. This group also has the highest reliance on outside capital (17%), with a greater percentage of external sources coming from capital donations than the other two groups.

## Uses of Cash by Financial Group, 1993-2003

	High	Medium	Low
Property, Plant & Equipmt	64%	65%	80%
Increase Cash & Marketable Securities	15%	10%	0%
Affiliate Transfers	14%	18%	3%
Incr Working Capital		6%	8%
Other	7%	0%	10%

The High performance group generated enough cash to be able to not only maintain its plant age, but also to increase its cash and investment assets over the decade, while transferring 14% of total cash to affiliates. The medium group is less able to increase cash, in part because it transfers more to affiliates, and needs cash to finance working capital.

The low performance group has the least amount of flexibility, in that it had to use up all of its cash just to maintain plant and working capital needs. Very little went to affiliates, and cash balances actually decreased. The “other” column reflects decreases in other noncurrent liabilities and/or increases in other noncurrent assets, the nature of which is not always clear from the financial statements.

## Summary of Financial Performance Measures

- Two-thirds of Maine hospitals performing well financially, although some may need to renovate plant and equipment soon. They appear to have the cash flow capacity to be able to take on more debt for needed capital improvements.
- One-third of Maine's hospitals have problems with operating profitability, which is detrimental to their ability to pay off longterm debt and to accumulate cash reserves or to access new capital. However none of these hospitals is about to "go under"; some are subsidized by other hospitals or by philanthropy; others are eroding their asset base but appear able to continue for at least a few more years.

## Cost and Quality Measures by Financial Group

Financial Group	High	Medium	Low
Avg Inpatient Charge per Discharge, 2002	\$10,334	\$10,283	\$9,199
Average Inpatient Cost per Discharge, 2002	\$5,657	\$5,619	\$5,508
2002 Average Case Weight	1.08	1.11	.99
% Admissions for Ambulatory Care Sensitive Conditions	21%	25%	27%

*Italicized averages represent significant differences for that group compared to other groups*

The financial groups are not significantly different in their case-mix adjusted average inpatient charges or in their average inpatient cost per discharge (also adjusted for case mix). However the low performance groups have a significantly lower case weight and a significantly higher proportion of admissions for ambulatory-sensitive conditions like congestive heart failure, asthma, or diabetes. The low case weight signifies an inpatient case load that is not very sick and also generating relatively lower per case revenues. Along with lack of inpatient growth, a low case-weight patient population supports the explanation that these hospitals are trying to maintain a high fixed-cost inpatient unit without the volume or case mix intensity needed to cover those costs.

The high proportion of admissions for ambulatory-sensitive conditions suggests that the low performance group may be providing a service mix that is inefficiently substituting inpatient for outpatient/ambulatory care. This can be for a variety of reasons, from a patient base that lacks prescription drug coverage to an inadequate or poorly performing ambulatory care infrastructure, to a hospital that has a poor fit of resources to population needs, or a mix of all three.

### Clinical Quality Measures by Financial Group, continued

Financial Group:	High	Medium	Low
Severity-adjusted Mortality	2.78%	2.74%	2.73%
% Obstetrics complications	7.17%	7.16%	9.10%
Severity-adjusted Adverse Event	3.57%	3.33%	3.45%
Severity-adjusted Wound Infection	.37%	.37%	.5%
Severity-adjusted Urinary Tract Infection	1.92%	2.04%	2.5%

None of the groups' averages were significantly different

There were no significant differences in the clinical quality outcomes among financial groups. The number of adverse incidents is generally quite small, and therefore statistically significant differences hard to achieve. For more background on the use of these clinical measures to compare hospitals, see the Needleman, Kane, Rudell report on [www.pioneerinstitute.org](http://www.pioneerinstitute.org).

## Some concluding observations

- Operating profit margin targets—need to consider how to make a target meaningful as a source of constraint on hospitals as well as equitable among hospitals
  - Standardized reporting
  - Focus on hospital entity, removing impact of physician practices
  - Consider pre-reserve operating margins to better achieve apples-to-apples
- In setting operating profit margin targets, how much cash reserves, capital spending, and affiliate transfer is appropriate? Need to consider “reasonable financial requirements” of hospitals.
- Public payer mix (% Medicare and Medicaid) does not explain differences in profitability among the three groups, nor does the proportion of uncompensated care provided
- Low profitability appears most related to flat inpatient volume growth, low case weight patients, high % admissions for ambulatory-sensitive conditions, low occupancy
- Low performers need evaluation of service configuration, population need, possibly alternative payment methods for needed services
- State should undertake effort to educate hospital trustees and community leaders about hospitals’ financial performance and reasons for performance variability.